Indications for Examination of Gonarthrosis

Nematov D. A.
Bukhara State Medical Institute

Relevance. First of all, this is due to the fact that most medicines used in OA have only a symptomatic effect. In recent years, a new class of drugs has appeared that have the properties of modifying the structure of articular cartilage. In 2003, the European Anti—Rheumatic League (EULAR) proposed new recommendations for the treatment of knee joint OA, and in 2004 - hip joints, which for the first time indicated the modifying effect on articular cartilage of drugs such as glucosamine and chondroitin (EULAR 2003); chondroitin (EULAR, 2005). Among the tasks of treatment for OA, the following can be distinguished: reducing the severity of symptoms of the disease; improving functional activity; slowing down the progression. In the popular presentation, patients receive information about the structure and function of joints, the essence of the disease, modern and promising methods of treatment and prevention. These materials, focused not only on the patient himself, but also on his relatives, can be distributed individually (attending physicians, social services workers), as well as in mutual assistance groups that are usually created at large specialized clinics [2.4.6.8.9.10].

The purpose of the study. Causes significant suffering to the patient, is characterized by intermittent aching or tightening pain, especially after heavy physical exercises, or loads on the knee joint directly. There is a so-called "starting pain" symptom, when the patient abruptly gets up, painful sensations arise, which gradually pass, but if you give an increased load on the limb, the pain resumes. It may manifest itself as a small edema that passes on its own.

Rarely, but it occurs, synovitis- fluid accumulates in the joint bag of the knee, which causes the knee area to become spherical and swollen, movements in the limb are limited. There is no joint deformity at this stage yet.

The patient begins to worry about prolonged and quite severe pain on the front and inside of the joint, even with small loads, but after a long rest they usually pass. When the joint moves, a crunch is heard, if the patient tries to bend the limb as much as possible, there is a sharp pain. The limited amplitude in the movement of the joint is revealed, deformation begins to be revealed. Synovitis occurs frequently, it bothers for a longer time, it occurs with a large accumulation of fluid in the joint. It causes considerable suffering to the patient, painful sensations are constant and disturb not only while walking, but also when resting and even at night, not letting him fall asleep. The joint is already deformed significantly, the position of the limb becomes X or O-shaped. There is a waddling gait, and often due to a significant deformation, a person cannot not only bend, but completely unbend his leg, as a result of which he has to use a cane or even crutches to walk [1.3.5.7.11.12].

The results of a study conducted by D. Blake and co-authors indicate that when the knee joint is affected (arthritis of various etiologies, including OA, complicated synovitis), exercise induces damage mediated by active oxygen radicals. The mechanism of synovial ischemia-reperfusion is currently well known. In gonarthrosis, the average value of pO2 at rest is significantly reduced. Physical exercises in the knee joint with synovitis lead to a pronounced increase in intra-articular pressure, excessive pressure of capillary perfusion, and in some cases to an increase in systolic blood pressure, which causes tissue hypoxia. During this period of increased intraarticular pressure, the pO2 of the synovial fluid decreases. At rest, intra-articular pressure decreases, reperfusion occurs

[13.15.17.19.21.23].

The causes of muscle shortening can be prolonged muscle spasm, skeletal deformation, restriction of movement in the joints. In turn, the shortening of the periarticular muscles induces a limitation of the volume of movements in the joint. Alternation of stretching (30 s) and pauses (10 s) was repeated for 25 minutes 5 days a week for 4 weeks, which led to an increase in the volume of hip abduction by an average of 8.3 ° and a decrease in the severity of joint pain. Muscle tissue biopsy revealed hypertrophy of type I and type II fibrils and an increase in glycogen content. Stretching exercises are contraindicated in the presence of effusion in the joint. Aerobic exercises. There is a number of evidence for the need for aerobic exercise programs in OA. It is known that the consumption of oxygen and energy when walking in patients with knee joint OA is increased [16.18.20.22.24].

This is probably due to a change in the normal function of joints and muscles, which leads to ineffective locomotion. Often, patients with gonarthrosis are overweight, they have weakness of the periarticular muscles. M. Ries and co-authors noted that the severity of gonarthrosis is associated with low maximum oxygen consumption (VO2 max). This indicates that the cardiovascular system is detrained in patients with severe gonarthrosis due to inactivity associated with severe pain syndrome and limitation of the function of the affected limb. The results of relatively recent studies have demonstrated an improvement in the physical ability of patients with OA (shortening the travel time of a certain distance, etc.) who participated in aerobic exercise treatment programs [25.27.29.31.32.33.35.37.39].

When developing individual aerobic exercise programs, it is necessary to take into account which joint groups are affected by OA. For example, cycling (bicycle ergometry) can be recommended for patients with gonarthrosis with a normal amount of flexion in the knee joint and in the absence of significant changes in the PFD of the joint. Swimming and exercises in water effectively reduce the load of body weight on the joints of the lower extremities in coxarthrosis and gonarthrosis. In any case, when formulating recommendations to the patient, it is necessary to adhere to the basic principle — training should be no more than 3 times a week and last no more than 35-40 minutes. According to a randomized comparative study of the effectiveness of aerobic exercises and a training program in elderly patients with gonarthrosis, there is a more significant improvement in motor function and pain reduction in the fitness group compared to the group of patients who participated only in the training program. In another study, it was found that in patients with OA who participated only in aerobic training (aerobic walking, exercises in water) for 12 weeks, there was a more pronounced increase in aerobic ability, an increase in walking speed, a decrease in anxiety /depression compared to the control group of patients who performed only passive recovery exercises volume of movements [26.28.30.34.36].

Physiotherapy is especially useful for OA of large joints of the lower extremities.

To relieve pain, reduce swelling of the periarticular tissues, reflex spasm of the periarticular muscles, improve microcirculation, treat mild or moderate synovitis, use: exposure to electromagnetic fields of ultrahigh and high frequencies; ultrasound therapy (including phonophoresis of anti-inflammatory drugs); short-wave diathermy (in the absence of synovitis); microwave therapy; electrophoresis of anti-inflammatory drugs (voltarena, hydrocortisone, dimethyl sulfoxide); laser therapy; applications of heat carriers (silt and peat mud, paraffin, ozokerite); balneotherapy (radon, hydrogen sulfide, sodium chloride, turpentine, iodine-bromine baths); hydrotherapy (reduces the gravitational load on the joints, mainly the hip). During the exacerbation of OA caused by reactive synovitis, ultraviolet irradiation in erythemic doses (5-6 procedures), electric field and decimeter waves in a low-heat dose (8-10 procedures), magnetic therapy (10-12 procedures), phonophoresis or electrophoresis of sodium metamizole, procaine, trimecaine, dimethyl sulfoxide on the affected joint area can be used.

Contraindications to the use of ultraviolet therapy are concomitant coronary heart disease, transient disorders of cerebral circulation, thyrotoxicosis, kidney disease. Exposure to the UHF electric field is contraindicated in severe vegetative–vascular dystonia, cardiac arrhythmia, hypertension stage IIB-III. Among the various physiotherapeutic methods, electrophoresis has proven itself well, combining the therapeutic effects of direct electric current and the injected drug. From the mechanisms of the biological action of direct electric current, the following physicochemical effects can be distinguished: electrolysis - the movement of charged particles (cations and anions) to an oppositely charged electrode and their transformation into atoms with high chemical activity; the movement of charged particles under the action of direct electric current causes a change in the ionic conjuncture in tissues and cells. The accumulation of oppositely charged particles in biological membranes leads to their polarization and the formation of additional polarization currents; as a result of changes in the permeability of biological membranes, the passive transport of large protein molecules (ampholites) and other substances through them increases — electrodiffusion; electroosmosis — the multidirectional movement of water molecules included in the hydrate shells of ions (mainly Na^+, K^+, Cl^-). Under the influence of an electric current, local blood flow regulation systems are activated in the underlying tissues and the content of biologically active substances (bradykinin, kallikrein, prostaglandins) and vasoactive mediators (acetylcholine, histamine) increases. As a result, the lumen of the skin vessels expands and hyperemia occurs. Expansion of capillaries and increased permeability of their walls due to local neurohumoral processes occur not only at the place of application of electrodes, but also in deeply located tissues through which a constant electric current passes. Along with an increase in blood and lymph circulation, an increase in the resorption capacity of tissues, a weakening of muscle tone, an increase in the excretory function of the skin and a decrease in edema in the focus of inflammation are observed. In addition, due to electroosmosis, the compression of pain conductors decreases, which is more pronounced under the anode [35.36.38.39].

Thus, chondroprotective therapy with Structum ® had advantages over the traditional treatment of NSAIDs (diclofenac) with respect to reducing the manifestations of inflammation during long-term follow-up. According to the patients, the tolerability of treatment was significantly better in the main group than in the control group ($p<0.05$). During 6 months of therapy, none of the patients dropped out of the study, no side effects were noted according to clinical and laboratory data. The level of hemoglobin, erythrocytes, leukocytes, as well as biochemical parameters of blood under the influence of both treatment regimens practically did not change, the indicators fluctuated within the physiological norm and their dynamics was not statistically significant, which also indicates good tolerability of treatment according to this scheme. In the main group, rare side effects of NSAIDs were also detected (gastralgia in 2 patients — 6.6%, increased blood pressure in 2 — 6.6%), which were quickly eliminated by discontinuation of NSAIDs or replacement with COX-2-specific NSAIDs, using corrective therapy. In the control group, side effects were noted in 10 (33.3%) patients and were regarded as insignificant, but required replacement with another NSAID (usually COX—2 - selective NSAIDs (Celebrex, Movalis), the appointment of corrective therapy. 3 out of 10 patients with arterial hypertension required hypotensive therapy, which adequately reduced blood pressure. Research data show that the evaluation of the effectiveness of treatment by both the doctor and the patient was significantly higher when treated with Structum ® than in the control group. This concerned both the period of active treatment (6 months) and the period of observation of patients for 3 months.

Conclusion. Summing up the data of the conducted research, I would like to emphasize some of its most significant results. Thus, the pronounced clinical effect of Structum ® develops already 3 months after the start of therapy, it is stable and persists 3 months after discontinuation of treatment in 80% of patients, and not only subjective indicators (questionnaires) improve, but also objective ones (volume of movements, ultrasound data). This is primarily due to a reduction in the risk of side

effects, which are often observed against the background of taking NSAIDs, especially complications from the digestive tract, including gastrointestinal bleeding.

USED LITERATURE

1. Amrilloevich N. D. Features of the application of external osteosynthesis in gonarthrosis //Asian journal of Pharmaceutical and biological research. – 2021. – Т. 10. – №. 2.
2. Uli Z. A. K., Amrilloevich N. D. MORPHOLOGICAL CHANGES IN THE HYALINE CARTILAGE OF THE KNEE JOINT AGAINST THE BACKGROUND OF INTRA-ARTICULAR ADMINISTRATION OF THE PREPARATION OF HYALURONIC ACID IN RATS WITH EXPERIMENTAL OSTEOARTHRITIS //Asian journal of pharmaceutical and biological research. – 2021. – Т. 10. – №. 3.
3. Uli Z. A. K., Amrilloevich N. D. MORPHOGENESIS OF HYALINE CARTILAGE OF THE KNEE JOINT AGAINST THE BACKGROUND OF INTRA-ARTICULAR INJECTION OF PLATELET-RICH AUTOLOGOUS PLASMA //Asian journal of pharmaceutical and biological research. – 2021. – Т. 10. – №. 3.
4. Ziyadullaev Abdusalom Khabibulla oglu. EVALUATION OF THE FUTURE RESULTS OF APPLICATION OF ARTHRO-MEDULLARY BYPASSING IN GONARTHROSIS. // Asian journal of Pharmaceutical and biological research. Volume 10 Issue 2 MAY-AUG 2021
5. В.Р. Акрамов, Ш.Ш. Ахмедов, Б.У. Хамраев, А.А. Тешаев Э.М. Хаятов, У.У. Раджабов., Эндопротезирование тазобедренного сустава при переломах шейки бедренной кости //. Проблемы биологии и медицины.- Самарканд №3 (96) 2017. стр- 23-26.
6. Акрамов В.Р. Особенности эндопротезирования тазобедренного сустава при анатомических нарушениях вертлужной впадины. “БЮЛЛЕТЕНЬ АССОЦИАЦИИ ВРАЧЕЙ УЗБЕКИСТАНА” Узбекистан г.Ташкент № 3 – 2011 , Стр.94-97
7. Акрамов В.Р. Некоторые проблемы эндопротезирования ранее оперированного тазобедренного сустава. “БЮЛЛЕТЕНЬ АССОЦИАЦИИ ВРАЧЕЙ УЗБЕКИСТАНА” Узбекистан Ташкент № 2 – 2011 , Стр.110-113.
8. Акрамов В.Р.,Ахмедов Ш.Ш., Хамраев Б.У- (Эндопротезирование тазобедренного сустава при переломах шейки бедренной кости) “ПРОБЛЕМЫ БИОЛОГИИ И МЕДИЦИНЫ ” Узбекистан г. Самарканд № 3 – 2017 (96), Стр.23-26
9. Акрамов В.Р.,Ш.Ш.,Хамраев А.Ш,Хамраев Б.У – (Тотальное эндопротезирование тазобедренного сустава и профилактика возможных осложнений) “НОВЫЙ ДЕНЬ В МЕДИЦИНЕ” Узбекистан. г. Ташкент, №4 (20) 2017, Стр.56-58
10. Акрамов В.Р., Ахмедов Ш.Ш., Хамраев А.Ш., Хамраев Б.У- (Эндопротезирование тазобедренного сустава при дегенеративно-дистрофических заболеваниях у взрослых) “БЮЛЛЕТЕНЬ АССОЦИАЦИИ ВРАЧЕЙ УЗБЕКИСТАНА” Узбекистан г.Ташкент № 2 – 2018, Стр.42-44.
11. V.R.Akramov,B. A.SH.Khamraev, SH.SH.Akhmedov, B.U.Khamraev,(The Arthroplasty Of The Hip At Fracture Of A Neck Of A Femur) European Journal of Business & Social Sciences., ISSN: 2235-767X.,Volume 07 Issue 05.,May 2019.
12. V.R.Akramov,B. A.SH.Khamraev, SH.SH.Akhmedov, B.U.Khamraev,(Prevention Of Possible Complications Before And After Total Endoprotesization Of The Combin) European Journal of Business & Social Sciences., ISSN: 2235-767X.,Volume 07 Issue 05.,May 2019.

13. Ахмедов Ш. Ш. и др. ЭНДОПРОТЕЗИРОВАНИЕ ТАЗОБЕДРЕННОГО СУСТАВА ПРИ ДЕГЕНЕРАТИВНО-ДИСТРОФИЧЕСКИХ ЗАБОЛЕВАНИЯХ У ВЗРОСЛЫХ //КОЛОНКА РЕДАКТОРА. – 2008.
14. Ахмедов Ш. Ш. и др. The peculiarities of prophylaxis of pulmonary thromboembolism after total hip endoprosthesis in dysplastic coxarthrosis //Новый день в медицине. – 2020. – №. 2. – С. 53-55.
15. Akhmedov S. The arthroplasty of the hip at fracture of a neck of a femur //European Journal of Business and Social Sciences. – 2019. – Т. 7. – №. 5. – С. 1423-1428.
16. Тешаев А., Асилова С., Ахмед С. Аппаратно-хирургическое лечение переломов дистального конца костей предплечья // Европейский журнал молекулярной и клинической медицины. - 2020. - Т. 7. - №. 3. - С. 3906-3919.
17. Ахмедов Ш. Ш. и др. Особенности профилактики ТЭЛА после тотального эндопротезирования при диспластических коксартрозах. – 2020.
18. Shavkatovich A. S., Shahobovich K. A., Esonboevich T. B. METOD FOR OPTIMIZATION OF PIPE JOINT ENDOPROSHETICS IN DYSPLASTIC COXAARTHROSIS //Euro-Asia Conferences. – 2021. – Т. 3. – №. 1. – С. 204-205.
19. Shavkatovich A. S., Shahobovich K. A., Esonboevich T. B. METHOD OF EARLY REHABILITATION AFTER TOTAL HIP ENDOPROSHETICS IN DYSPLASTIC COXARTHROSIS //E-Conference Globe. – 2021. – С. 184-185.
20. Хамраев А. Ш., Тугузов Б. Э., Ахмедов Ш. Ш. Оптимизация тотального эндопротезирования тазобедренного сустава при диспластическом коксартрозе //Врач скорой помощи. – 2020. – №. 8. – С. 60-71.
21. Shavkatovich A. S. Prevention of possible complications before and after total end protestation of the combine //European Journal of Business and Social Sciences. – 2019. – Т. 7. – №. 5. – С. 1413-1422.
22. Mirzamurodov Habibjon Halimovich, Nurulloev Sukhrob Ozodovich. IMPROVEMENT OF SURGICAL TREATMENT OF PATIENTS WITH COMBINED DEGENERATIVE-DYSTROPHIC PATHOLOGY OF THE HIP JOINT AND SPINE WITH PREVALENCE OF MANIFESTATIONS OF COXARTHROSIS// British Medical JournalVolume-1, No 2., 2021. P.180-187.
23. Mirzamurodov, Habibjon H. (2021) "FEATURES OF SURGICAL TACTICS OF TREATMENT OF PATIENTS WITH COXOVERTEBRAL SYNDROME," Central Asian Journal of Medicine: Vol. 2021 : Iss. 2 , Article 7.
24. Mirzamurodov H. H. New approaches to treatment of patients with coxovertebral syndrome //Asian journal of Pharmaceutical and biological research. – 2021. – Т. 10. – №. 2. – С. 9-19.
25. Ходжанов И.Ю., Мирзамуродов Х.Х. «Тазово-вертебральный синдром, диагностика и лечение». *научно-практический журнал «Травматология, ортопедия и реабилитация»* 1 (2021): 70-76.
26. Kh, Mirzamurodov H., I. Yu Khodzhanov, and S. O. Nurulloev. "Complex conservative therapy for hip-spine syndrome." *International Scientific and Educational electronic journal" Education and science in the xxi century* (2021): 1438-1439.
27. Kh, Mirzamurodov Kh, et al. "Optimization of total hip arthroplasty in dysplastic coxarthrosis." *New day in medicine* 4 (2020): 32.

28. Nurulloyev S. O., Mirzamuradov H. H. Morphological Changes In Bone Tissue In Chronic Osteomyelitis On The Background Of Application Of Plate Concentrate //The American Journal of Medical Sciences and Pharmaceutical Research. – 2021. – Т. 3. – №. 04. – С. 160-164.
29. Nurullaev S. O. et al. Our experience in the treatment of grade I-II gonarthroa with hyaluronic acid preparations //ACADEMICIA: AN INTERNATIONAL MULTIDISCIPLINARY RESEARCH JOURNAL. – 2020. – Т. 10. – №. 12. – С. 1767-1771.
30. Nurulloev S. O., Kh M. K. Our experience in the treatment of degree i-ii gonarthrosis with drugs hyalouranic acid //Innovation in the modern education system. – 2021. – №. 1 Part 5. – С. 546-548.
31. НуруллоевС., & Бахранов, Б. (2021). Анализ Частоты Встречаемости Ацептического Некроза Головки Бедренной Кости После Covid-19. *CENTRAL ASIAN JOURNAL OF MEDICAL AND NATURAL SCIENCES*, 284-287.
32. Nurulloev, Sukhrob O. (2021) "FEATURES OF MORPHOLOGICAL CHANGES IN THE BONES AND SURROUNDING TISSUES IN CHRONIC OSTEOMYELITIS AND TREATMENT WITH LASER OSTEOPERFORATION," *Central Asian Journal of Medicine*: Vol. 2021 : Iss. 2 , Article 8.
33. Nurulloyev Sukhrob Ozodovich. Analysis of morphological changes in the bones after osteomyelitis and features of treatment methods // Asian journal of Pharmaceutical and biological research. Volume 10 Issue 2 MAY-AUG 2021
34. Хамраев Б. У., Акрамов В. Р. Программа для выражения способа лечения методом блокирующего интрамедуллярного остеосинтеза при переломе бедренной кости //Свидетельство об официальной регистрации программы для ЭВМ. Агентство по интеллектуальной собственности Республики Узбекистан. – 2019.
35. Khamraev B.U., Akhmedov Sh.Sh. TWO-STAGE REVISION HIP REPLACEMENT PATIENS WITH SEVERE ACETABULUM DEFECT (CASE REPORT) // Asian journal of Pharmaceutical and biological research. Volume 10 Issue 2 MAY-AUG 2021.